

12-26-01

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NCR Docket Number 10183.00

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Transmitted herewith for filing is the patent application of Inventor(s): Paul F. Nugent, Jr.

For: A SCALE

Enclosed are also:

- ☒ 1 Sheet(s) of Drawings  
☐ An assignment of the invention to NCR Corporation  
☐ A certified copy of an application

## CLAIMS AS FILED

FOR	Number Filed	Number Extra	Rate	Basic Fee (\$740)
Total Claims	7	-20 = 0	X \$ 18	= \$ 0
Independent Claims	1	-3 = 0	X \$ 84	= \$ 0
Multiple Dependent Claims	0		X \$280	= \$ 0
<b>Total Filing Fee</b>				<b>= \$ 740</b>

- ☒ Please charge the above filing fee to the account of NCR Corporation, Deposit Account No. 14-0225.

Please have all communications concerning this application and the recorded Assignment directed to:

Paul W. Martin  
Intellectual Property Section  
Law Department  
NCR Corporation  
1700 South Patterson Blvd.  
Dayton, Ohio 45479-0001

Our telephone number is: 937-445-2990

Respectfully,

*Paul F. Nugent, Jr.*  
Attorney for: Paul F. Nugent, Jr.

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PATRICIA CARTHEY  
(type or print name of person certifying)  
*Patricia Carthey*  
Signature

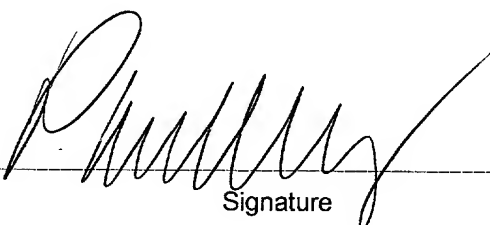
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<b>REQUEST AND CERTIFICATION UNDER 35 U.S.C. 122(b)(2)(B)(i)</b>	First Named Inventor	NUGENT, P.
	Title	A SCALE
	Atty Docket Number	10183.00

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral agreement, that requires publication at eighteen months after filing. I hereby request that the attached application not be published under 35 U.S.C. 122(b).

12-19-2001

Date

  
Signature

Paul W. Martin

Typed or printed name

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing**.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

Burden Hour Statement: This collection of information is required by 37 CFR 1.213(a). The information is used by the public to request that an application not be published under 35 U.S.C. 122(b) (and the PTO to process that request). Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This form is estimated to take 6 minutes to complete. This time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

10024300-121901

# APPLICATION FOR LETTERS PATENT OF THE UNITED STATES

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Patricia Carthey  
(type or print name of person certifying)

Patricia Carthey  
Signature

## SPECIFICATION

To all whom it may concern:

Be It Known, That I, PAUL F. NUGENT, JR., of Alpharetta, GA, have invented certain new and useful improvements in A SCALE, of which I declare the following to be a full, clear and exact description:

## **A SCALE**

This invention relates to a weigh scale and in particular to an adjustable weigh scale.

### **BACKGROUND TO THE INVENTION**

Scales are widely used in point of sale (POS) systems, in order to weigh items, such as fruit and vegetables, being purchased. These scales comprise four support members arranged into a substantially rectangular support frame, which supports a flat plate onto which items to be weighed are placed. The plate tends to be made of a material, such as glass, which is transparent to radiation utilized to scan bar codes on items being purchased. The bar code scanner is placed in a well beneath the transparent plate. In this way the person operating the POS terminal can both weigh loose items and scan bar-coded items in the same work area.

In some POS systems such as self-checkout terminals a second scale is placed in the bag well in the terminal. This "security" scale is arranged to weigh all of the items placed in a bag in the bag well. This is compared to the weight expected for the items weighed in the first scale and the items scanned by the terminal barcode scanner. The weight of scanned items is entered into the POS control computer in order to facilitate this comparison. If the weight of items in the bag well exceeds the expected weight then a security alert can be activated in order to warn the store personnel of a possible theft or, at least, a misuse of the terminal.

However, the wells containing scanning apparatus and bag wells in different models of POS terminal can be quite different in size, which leads manufacturers to require to stock a variety of scales in order to fit scales into the various terminals. This is a significant financial and stock keeping problem for manufacturers.

Accordingly, it is a general object of the present invention to overcome or at least mitigate the problems experienced by manufacturers, as identified above.

#### **SUMMARY OF THE INVENTION**

According to a first aspect of the invention there is provided a scale comprising a pair of elongate support members, each member containing a gauge which provides an indication of the weight of an item placed across the two members, the members being structurally connected solely via a surface plate adapted to rest on the support members to provide a substantially flat surface to receive items to be weighed. Preferably the gauge is a strain gauge.

In the present description and claims the concept of "structural connection" is intended to mean a connection which provides strength or rigidity, or the like, to a scale.

Preferably, the rigidity of the surface plate is increased as the separation of the two members is increased.

Preferably, the surface plate is transparent to radiation utilized to scan barcodes on items.

Preferably, an electronics box, which is adapted to translate the output of the gauges on the two members into a recognizable weight. The box is located adjacent a first of the two members and the gauge in the second member is coupled to the box via RS232 lead.

Preferably, each member is approximately 19.4 inches (9.4 cm) long.

It is an advantage of the present invention that a single form of scale can be utilized in a variety of different well sizes.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

Embodiments of the invention will now be described, by way of example, and with reference to the drawing in which:

Figure 1 is an isometric view of a scale in accordance with the present invention.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION**

Figure 1 illustrates a scale 10 comprising a pair of elongate support members 12, each member 12 containing a gauge 14, which provides an indication of the weight of an item placed across the two members 12. The members 12 are structurally connected solely via a surface plate 16, which is adapted to rest on the support members 12 to provide a substantially flat surface to receive items to be weighed.

The plate 16 may be transparent to radiation utilized to scan barcodes on items, if the scale is to be used in a POS system as the primary scale used by store personnel to weigh produce. However, this is not necessary if the scale is to be used as a security scale in the bag well of a self-checkout POS terminal. However, the rigidity of the surface plate 16 is increased as the separation of the two members 12 is increased. This ensures that the plate does not buckle or twist during use, which would result in an inaccurate weight measurement.

In the preferred embodiment each member is approximately 19.4 inches (9.4 cm) long. A wire 18, in the form of an RS232 lead, connects the gauge in the remote member to an electronics box 20, located adjacent the other member. The electronics box 20 is adapted to translate the readings from the gauges into a recognizable weight measurement.

The gauges are strain gauges, such as those produced by Tedea Huntley International Ltd. and as such will not be described further herein.

Modifications may be incorporated without departing from the scope of the present invention. For example, alternative gauges may be utilized.

100-400-121904

CLAIMS

1. A scale comprising a pair of elongate support members, each member containing a gauge which provides an indication of the weight of an item placed across the two members, the members being structurally connected solely via a surface plate adapted to rest on the support members to provide a substantially flat surface to receive items to be weighed.
2. A scale as claimed in claim 1, wherein the gauge is a strain gauge.
3. A scale as claimed in claim 1, wherein the rigidity of the surface plate is increased as the separation of the two members is increased.
4. A scale as claimed in claim 1, wherein the plate is transparent to radiation utilized to scan barcodes on items.
5. A scale as claimed in claim 1, comprising an electronics box, which is adapted to translate the output of the gauges on the two members into a recognizable weight.
6. A scale as claimed in claim 5, wherein the box is located adjacent a first of the two members and the gauge in the second member is coupled to the box via RS232 lead.
7. A scale as claimed in claim 1, wherein each member is approximately  
19.4 inches (9.4 cm) long.

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**ABSTRACT**

**A SCALE**

A scale comprises a pair of elongate support members, each member containing a gauge, which provides an indication of the weight of an item placed across the two members. The members are structurally connected solely via a surface plate adapted to rest on the support members to provide a substantially flat surface to receive items to be weighed

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## United States Patent Application

**COMBINED DECLARATION AND POWER OF ATTORNEY**

As a below named inventor I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**A SCALE**

and identified by NCR Corporation Docket No. 10183.00, the specification of which:

- a. ☒ is attached hereto
- b. ☐ was filed on \_\_\_\_\_ as United States Application Number or PCT International Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable), which I have reviewed and for which I solicit a United States patent.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate or any PCT application having a filing date before that of the application on the basis of which priority is claimed:

**FOREIGN APPLICATION(S), IF ANY, CLAIMING PRIORITY UNDER 35 USC § 119**

COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)
	None		

**OTHER FOREIGN APPLICATION(S), IF ANY, FILED BEFORE THE PRIORITY APPLICATION(S)**

COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)
	None		

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or 365(c) of any PCT international application(s) designating the United States of

America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

U.S. PARENT APPLICATION OR PCT PARENT NUMBER	DATE OF FILING (day, month, year)	STATUS (patented, pending, abandoned)
None		

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

U.S. PROVISIONAL APPLICATION NUMBER	DATE OF FILING (Day, Month, Year)
None	

And I hereby appoint:

Michael Chan of Dayton, Ohio, Registration No. 33,663,  
John D. Cowart of San Diego, California, Registration No. 38,415,  
Douglas S. Foote of Dayton, Ohio, Registration No. 31,013,  
Paul W. Martin of Dayton, Ohio, Registration No. 34,870,  
James M. Stover of Dayton, Ohio, Registration No. 32,759.

my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. I hereby expressly waive my right to revoke the Power of Attorney granted above. Address all telephone calls to Paul W. Martin at telephone number 937-445-2990.

Address all correspondence to:

Paul W. Martin  
NCR Corporation  
1700 South Patterson Blvd.  
Dayton, Ohio 45479-0001.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of inventor Paul F. Nugent, Jr.  
Inventor's signature \_\_\_\_\_ Date: \_\_\_\_\_  
Residence 4825 Haydens Walk Drive, Alpharetta, GA 30022  
Citizenship US  
Post Office Address Same as above

FIG. 1

